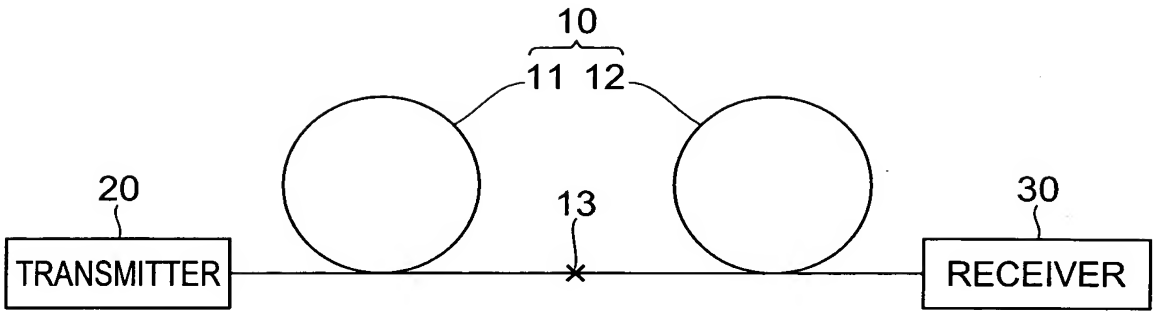
Fig.1



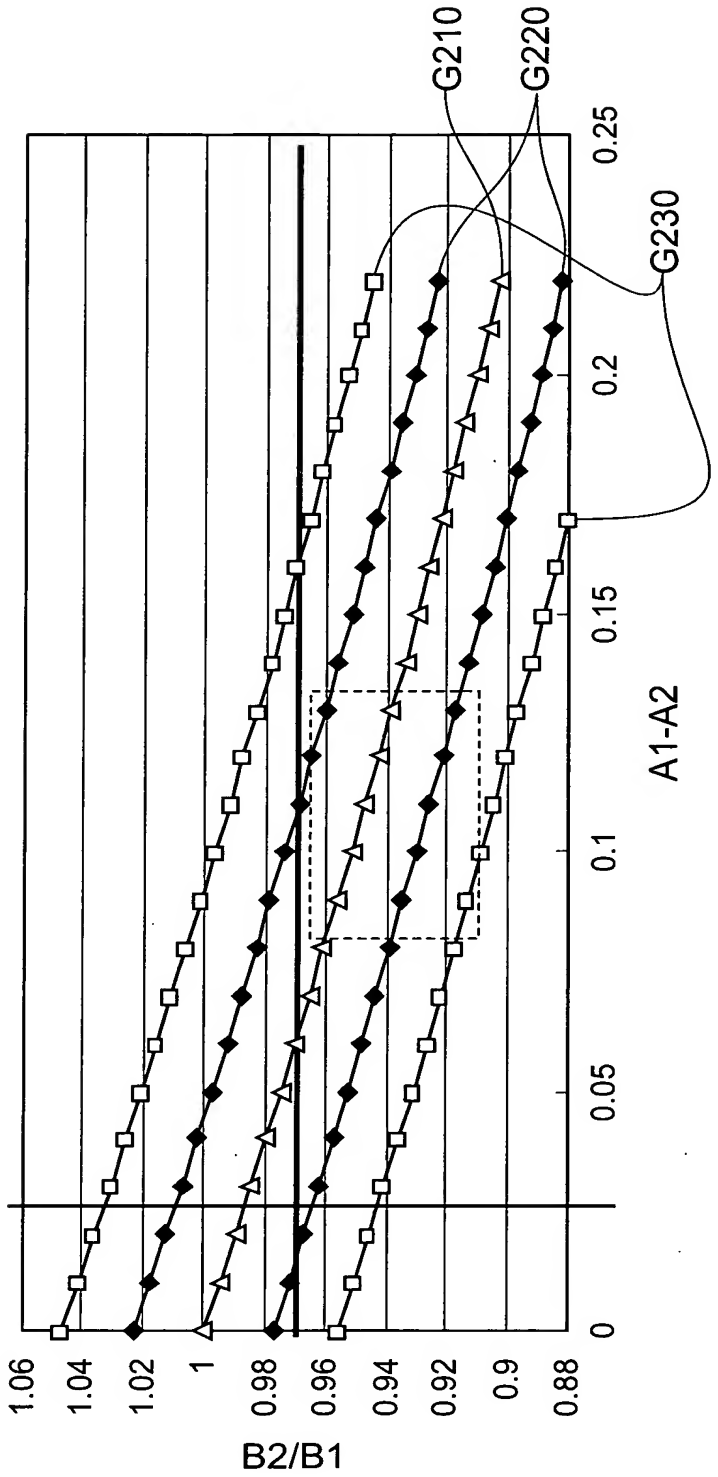

G210
G220
G230
0.25
0.2
0.15
0.1
0.05
0
A1-A2
1.06
1.04
1.02
1
0.98
0.96
0.94
0.92
0.9
0.88
B2/B1

Fig.2

Fig.3

SAMPLE	A1 (dB/km・μm⁴)	A2 (dB/km・μm⁴)	A1--A2 (dB/km・μm⁴)	B1 (μm)	B2 (μm)	B2/B1	K-VALUE (dB)
1	1.07	0.94	0.13	10.35	10.10	0.98	0.17
2	0.94	0.87	0.07	10.35	10.10	0.95	0.06
3	1.12	0.94	0.18	10.35	9.80	0.95	0.14
4	1.10	0.94	0.16	10.35	9.60	0.93	0.01
5	1.13	0.94	0.19	10.35	9.80	0.95	0.15
6	0.98	0.87	0.11	10.40	9.80	0.94	0.01
SAMPLE	A1 (dB/km・μm⁴)	A2 (dB/km・μm⁴)	A1--A2 (dB/km・μm⁴)	B1 (μm)	B2 (μm)	B2/B1	ERROR OF MEARUREMENT (dB)
7	1.06	0.94	0.12	10.35	10.21	0.98	0.19
8	0.92	0.87	0.05	10.35	10.10	0.95	0.01
9	1.10	0.94	0.16	10.35	10.03	0.97	0.19
10	1.07	0.94	0.13	10.35	9.93	0.96	0.09
11	1.11	0.94	0.17	10.35	9.99	0.97	0.20
12	1.08	0.94	0.14	10.35	9.89	0.96	0.09

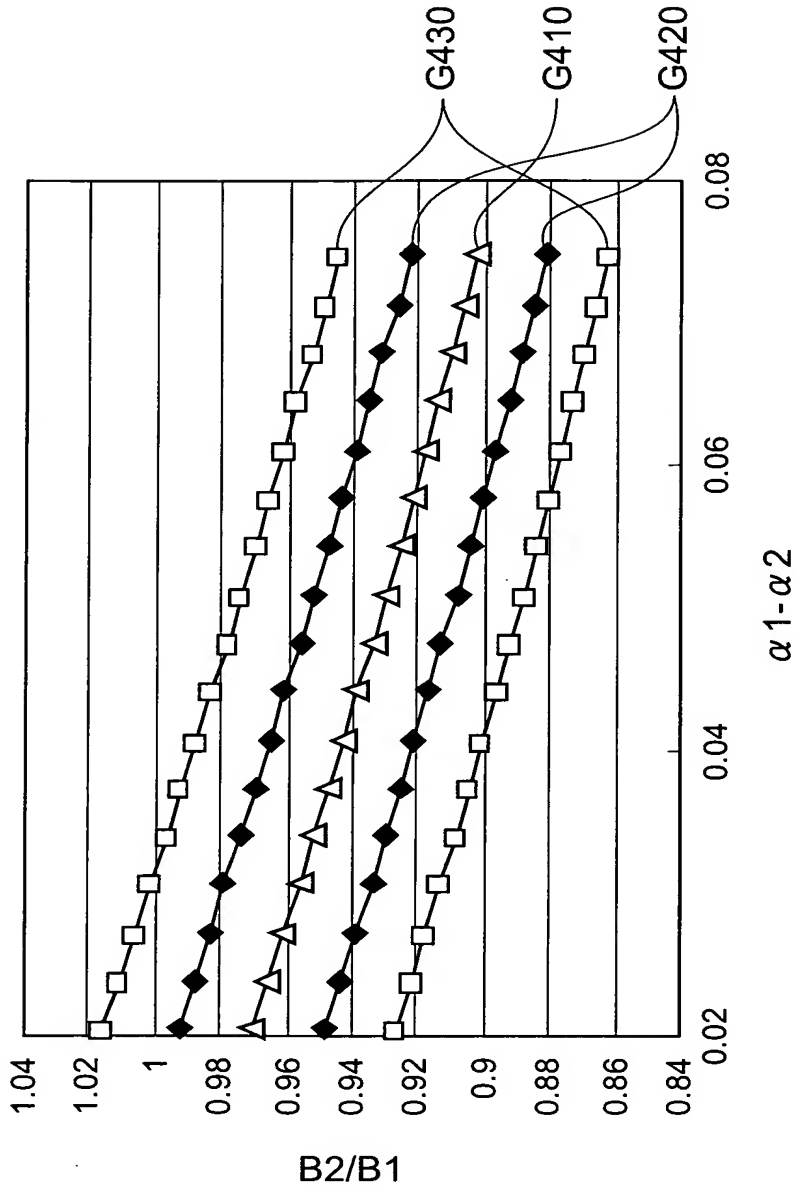

G430
G410
G420
1.04
1.02
1
0.98
0.96
0.94
0.92
0.9
0.88
0.86
0.84
B2/B1
0.02
0.04
0.06
0.08
α1-α2

Fig.4

Fig.5

SAMPLE	$\alpha 1$ (dB/km)	$\alpha 2$ (dB/km)	$\alpha 1-\alpha 2$ (dB/km)	B1 (μm)	B2 (μm)	B2/B1	K-VALUE (dB)
13	0.325	0.305	0.020	9.13	8.61	0.94	0.11
14	0.339	0.309	0.031	8.95	8.55	0.96	0.01
15	0.339	0.307	0.032	9.20	8.40	0.91	0.17
16	0.353	0.315	0.037	9.13	8.61	0.94	0.01
SAMPLE	$\alpha 1$ (dB/km)	$\alpha 2$ (dB/km)	$\alpha 1-\alpha 2$ (dB/km)	B1 (μm)	B2 (μm)	B2/B1	ERROR OF MEARUREMENT (dB)
17	0.339	0.317	0.022	9.20	8.50	0.92	0.19
18	0.339	0.315	0.024	9.15	8.65	0.95	0.08
19	0.339	0.314	0.025	9.10	8.40	0.92	0.17
20	0.339	0.312	0.027	9.05	8.60	0.95	0.04

Fig.6

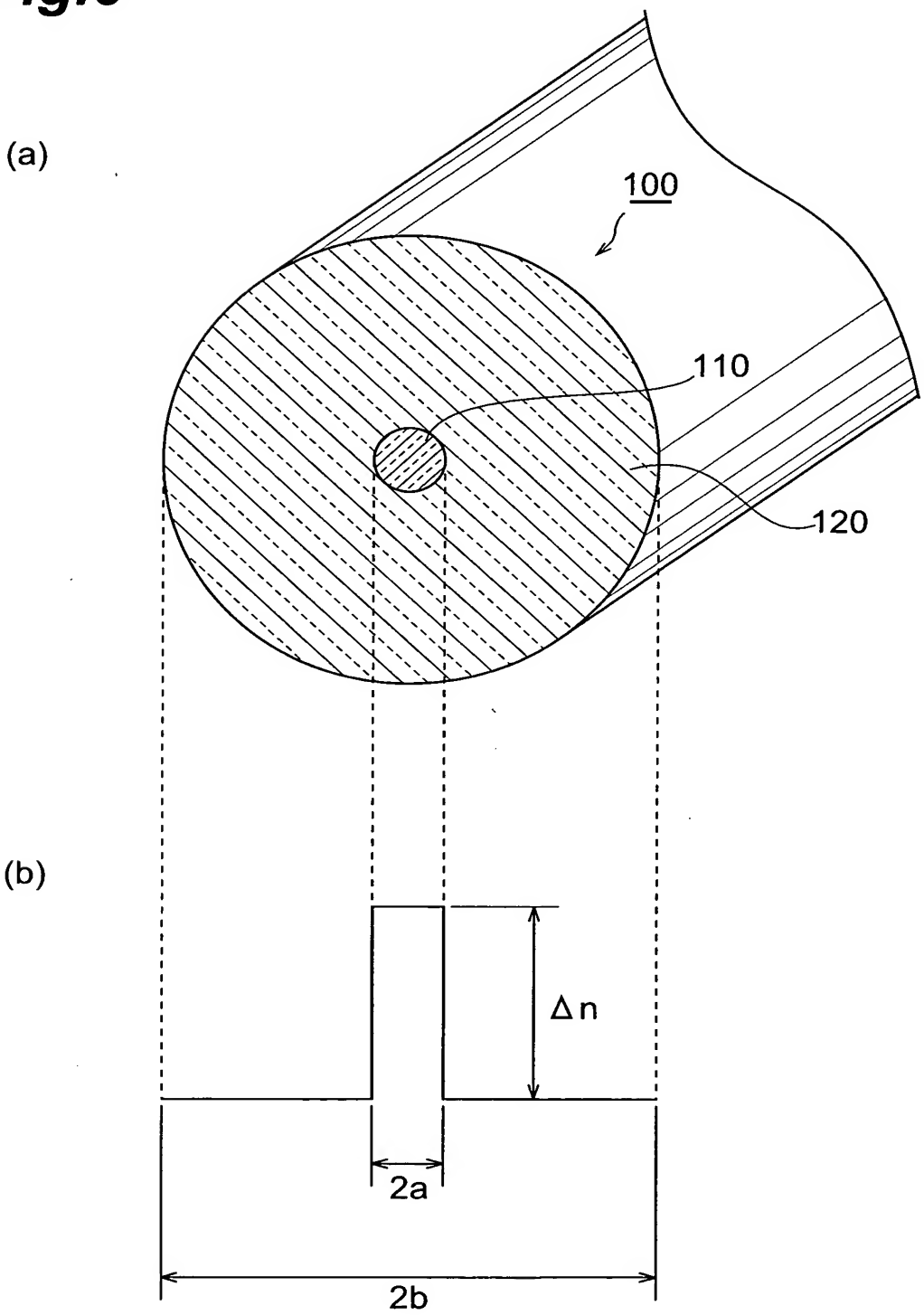


Fig.7

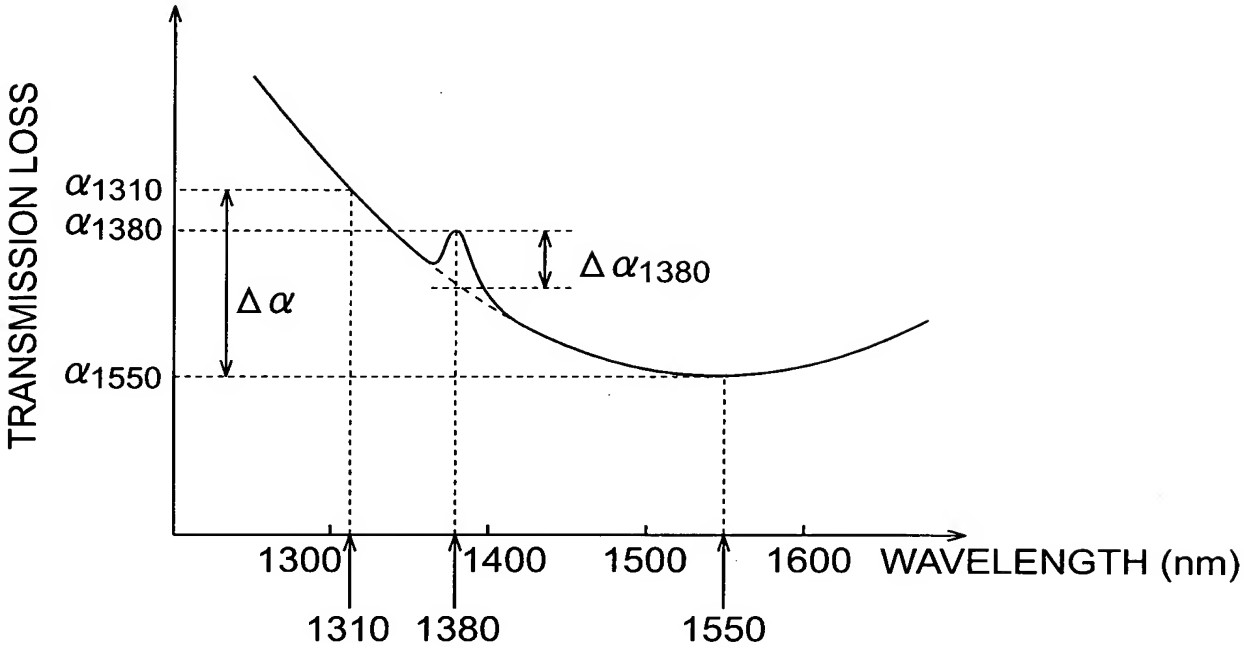

TRANSMISSION LOSS
α1310
α1380
α1550
Δα
Δα1380
1300
1400
1500
1600
WAVELENGTH (nm)
1310
1380
1550

Fig.8

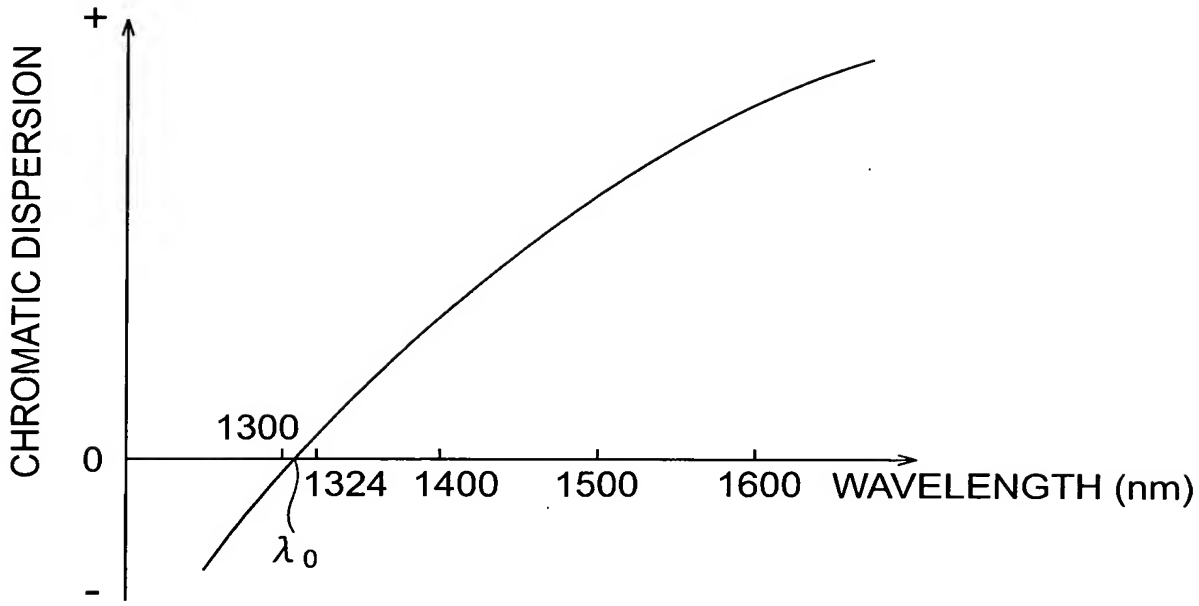

+
CHROMATIC DISPERSION
0
-
1300
1324
1400
1500
1600
WAVELENGTH (nm)
λ_0

Fig.9

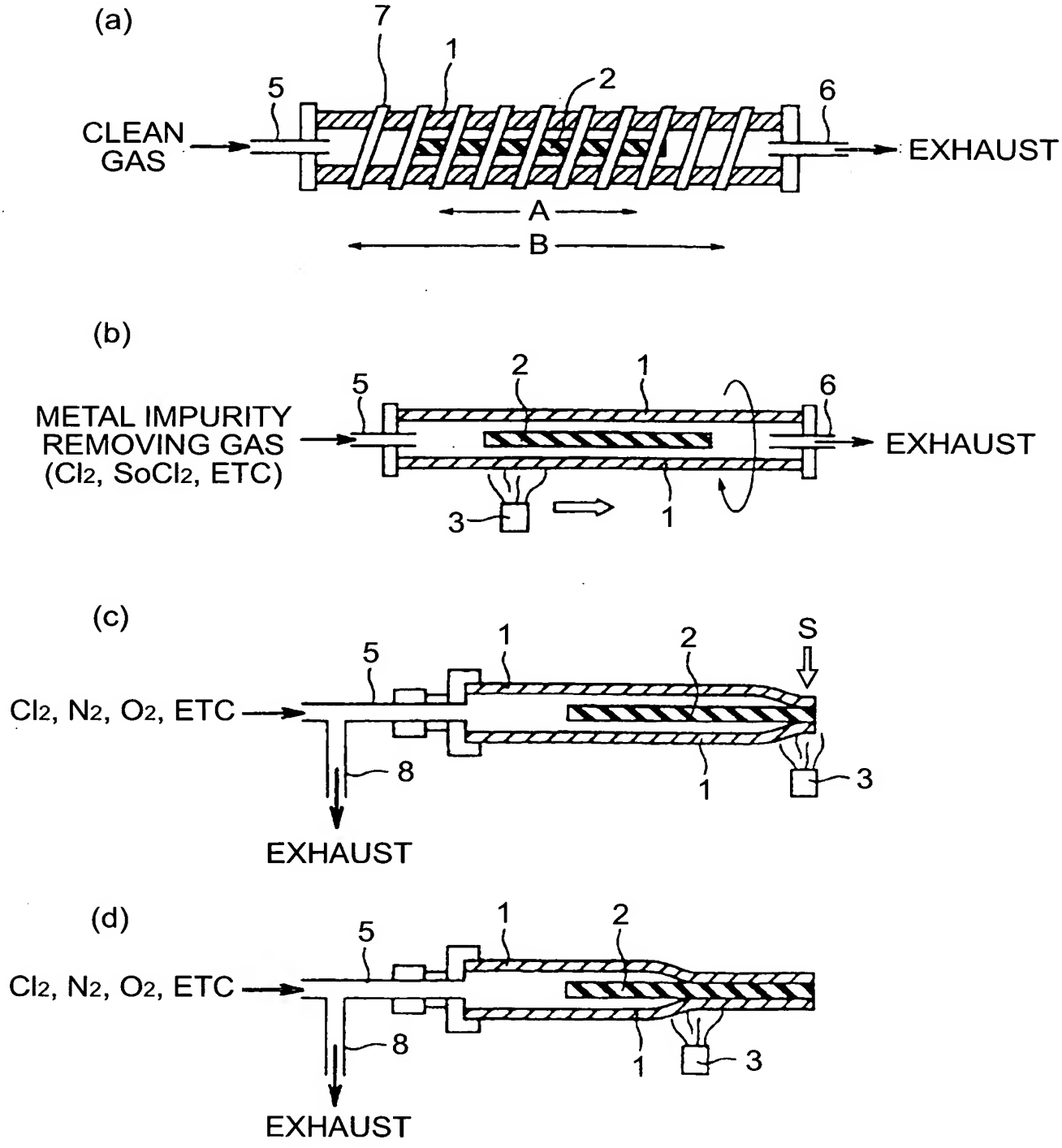

(a)
7
1
2
5
6
CLEAN GAS
EXHAUST
A
B
(b)
2
1
5
6
METAL IMPURITY REMOVING GAS (Cl2, SoCl2, ETC)
EXHAUST
3
1
(c)
1
2
S
5
Cl2, N2, O2, ETC
8
1
3
EXHAUST
(d)
1
2
5
Cl2, N2, O2, ETC
8
1
3
EXHAUST

Fig.10

		SAMPLE A	COMPARATIVE EXAMPLE A
TRANSMISSION LOSS α_{1310}	(dB/km)	0 . 29	0 . 33
TRANSMISSION LOSS α_{1380}	(dB/km)	0 . 27	0 . 62
TRANSMISSION LOSS α_{1550}	(dB/km)	0 . 17	0 . 19
LOSS DIFFERENCE $\Delta\alpha$ ($=\alpha_{1550}-\alpha_{1310}$)	(dB/km)	0 . 12	0 . 14
OH-RELATED LOSS INCREASE $\Delta\alpha_{1380}$	(dB/km)	0 . 03	0 . 31
CABLE CUTOFF WAVELENGTH	(nm)	1220	
ZERO DISPERSION WAVELENGTH	(nm)	1310	
MODE FIELD DIAMETER (AT WAVELENGTH OF 1550nm)	(μm)	9 . 7	
BENDING LOSS (AT WAVELENGTH OF 1550nm AND IN BENDING DIAMETER OF 20mm)	(dB/m)	2	

Fig.11

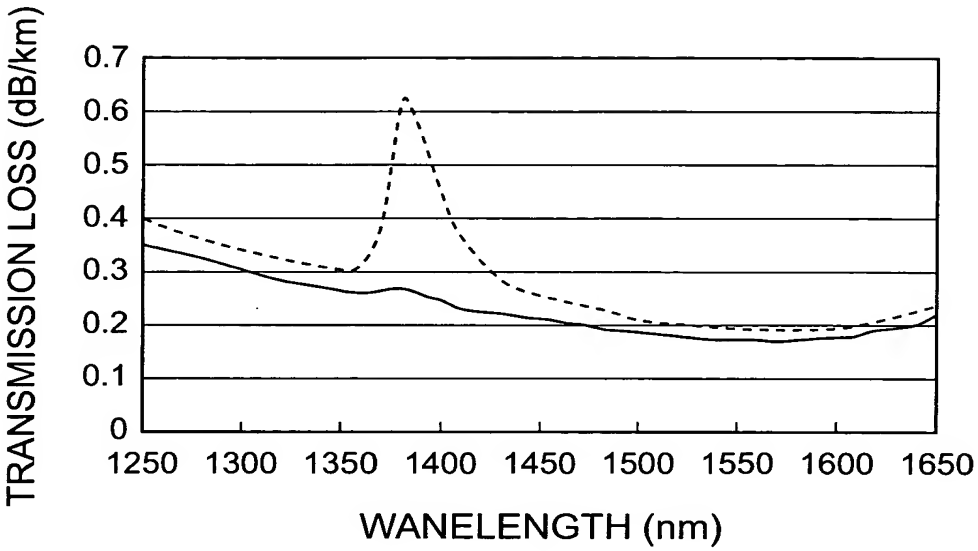

TRANSMISSION LOSS (dB/km)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1250
1300
1350
1400
1450
1500
1550
1600
1650
WANELENGTH (nm)

Fig.12

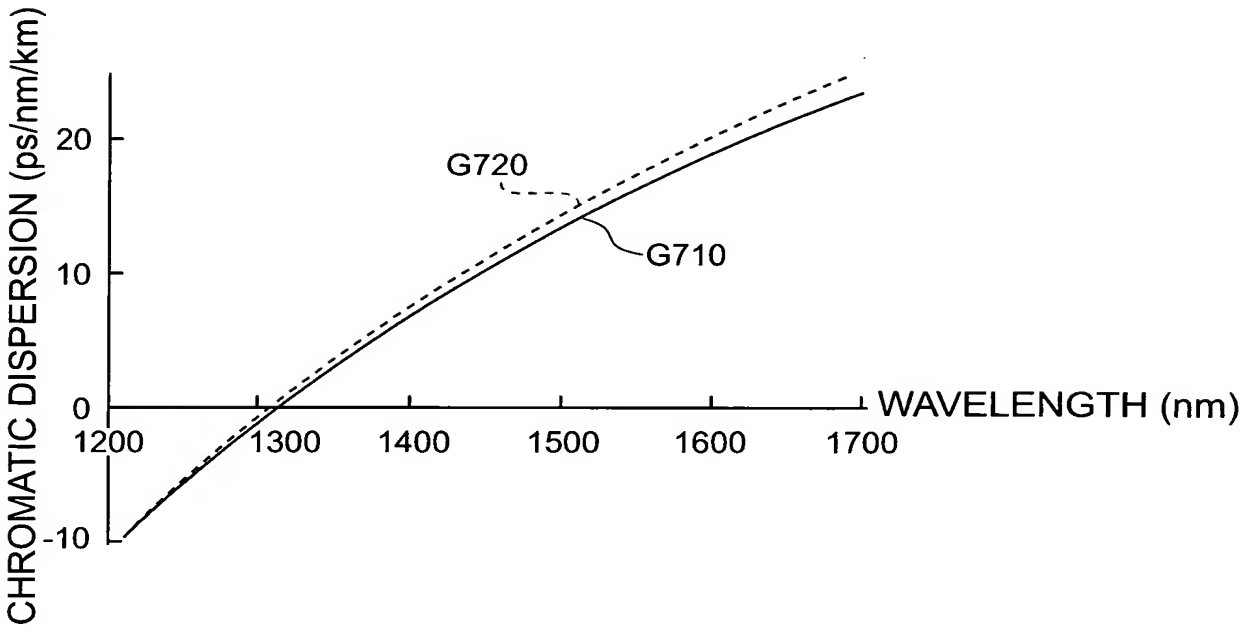

CHROMATIC DISPERSION (ps/nm/km)
20
10
0
-10
1200
1300
1400
1500
1600
1700
WAVELENGTH (nm)
G720
G710

Fig.13

	Δn (%)	2a (μm)	CABLE CUTOFF WAVELENGTH (nm)	MFD AT WAVELENGTH OF 1310 nm (μm)	ZERO DISPERSION WAVELENGTH (nm)	CHROMATIC DISPERSION AT WAVELENGTH OF 1550 nm (ps/nm/km)	DISPERSION SLOPE AT WAVELENGTH OF 1550 nm (ps/nm²/km)	ZERO DISPERSION SLOPE (ps/nm²/km)	TRANSMISSION LOSS AT WAVELENGTH OF 1310 nm (dB/km)	TRANSMISSION LOSS AT WAVELENGTH OF 1380 nm (dB/km)	OH-RELATED LOSS INCREASE AT WAVELENGTH OF 1380 nm (dB/km)	TRANSMISSION LOSS AT WAVELENGTH OF 1550 nm (dB/km)	FIBER STRUCTURE (CORE MATERIAL /CLADDING MATERIAL)
SAMPLE A	0.38	7.80	1166	8.53	1318	14.97	0.0540	0.0793	≦0.32	≦0.31	≦0.10	≦0.176	PURE SILICA GLASS /F-DOPED GLASS
SAMPLE C	0.935	8.16	1230	8.06	1313	15.46	0.0544	0.0806					
SAMPLE D	0.39	8.02	1200	8.57	1313	15.39	0.0537	0.0801					
SAMPLE E	0.395	7.56	1135	8.37	1318	14.86	0.0531	0.0789					
SAMPLE F	0.42	7.60	1260	8.33	1307	15.75	0.0536	0.0816					
SAMPLE G	0.385	8.14	1184	8.72	1312	15.90	0.0547	0.0800					
SAMPLE H	0.38	8.52	1226	8.92	1304	16.66	0.0548	0.0819					
SAMPLE B	0.36	8.10	1133	8.92	1317	15.39	0.0544	0.0790					
COMPARATIVE EXAMPLE B	-	-	1158	9.13	1316	16.50	0.0584	0.0850	0.33	0.62	0.31	0.19	Ge-DOPED GLASS /PURE SILICA GLASS

Fig.14

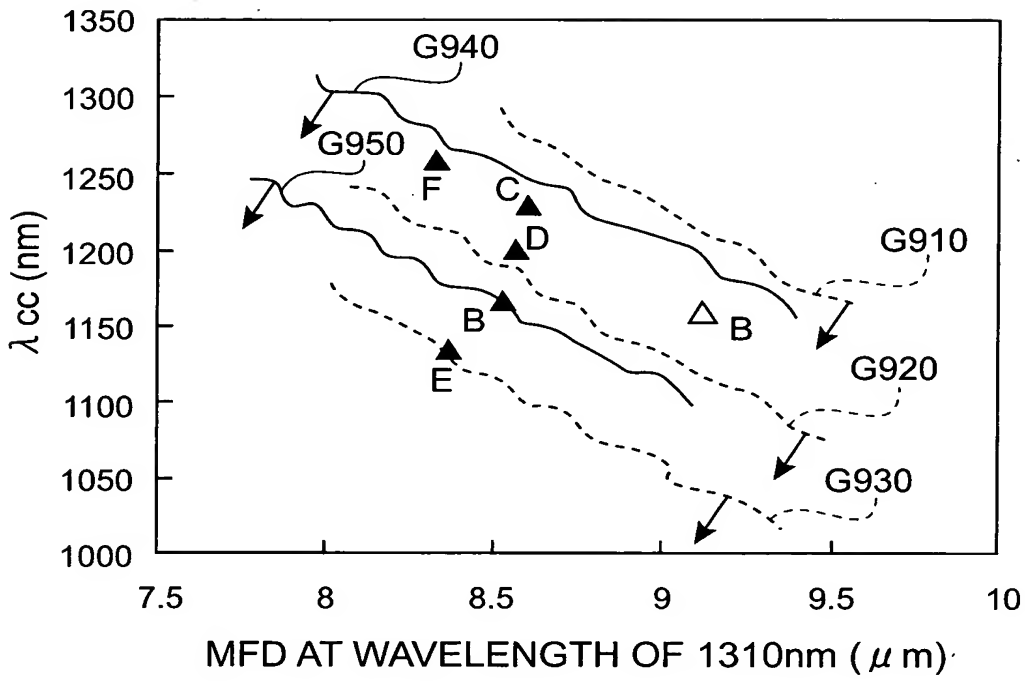
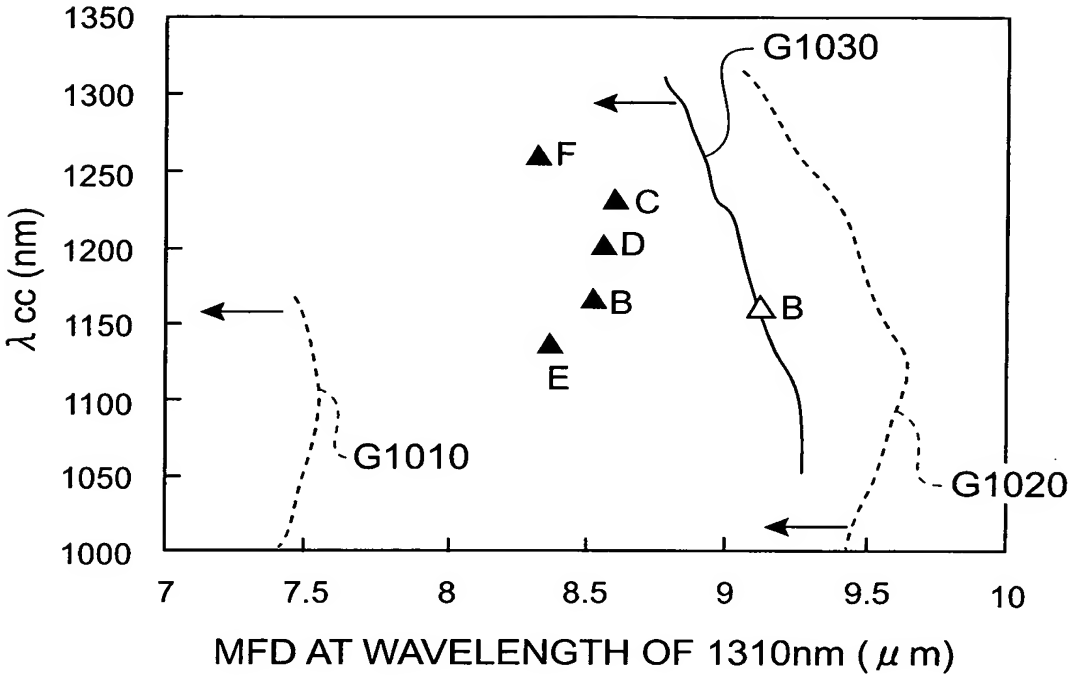

1350
1300
1250
1200
1150
1100
1050
1000
λ cc (nm)
7.5
8
8.5
9
9.5
10
MFD AT WAVELENGTH OF 1310nm (μm)
G940
G950
G910
G920
G930
F
C
D
B
B
E

Fig.15


1350
1300
1250
1200
1150
1100
1050
1000
λ cc (nm)
7
7.5
8
8.5
9
9.5
10
MFD AT WAVELENGTH OF 1310nm (μm)
G1030
G1010
G1020
F
C
D
B
B
E